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Fairtrade on coffee farming in Takengon District, Central Aceh Regency

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Abstract. Fairtrade in coffee farming has been widely applied in several coffee-producing countries. Not only providing a quality guarantee to coffee consumers, but fair trade also guarantees higher price and benefit for coffee farmers in exchange for all the efforts made during coffee cultivation. Gayo Coffee is one of the commodities that is being produced and becomes exporting commodity in Indonesia. The Fairtrade system has been implemented by coffee Gayo farmers in Takengon District Since 2018. There are two groups of Gayo Coffee farmers in Takengon District, non-fairtrade and fairtrade coffee farmers. The result of study shows that productivity incremental of non-fairtrade farmer is greater than fairtrade farmer due to the requirements of fairtrade such as the use of organic fertilizers which causes farmers' productivity to be lower. However, income incremental of non-fairtrade farmer is lower than fairtrade farmer due to additional price that is only given to the fairtrade farmer.

1. Introduction

Indonesia is a world coffee exporter besides Brazil, Columbia, and Vietnam with total export volume reaching 379,352 Tons [1]. Indonesia climate and geographical conditions are suitable for coffee production. Total coffee production of Indonesia in 2020 is about 762,380 Ton and a total plantation area is 1.25 million Ha [2]. Indonesian coffee is produced in almost all of Indonesia provinces. South Sumatera is the province with the greatest production with total production is about 198,945 tons or 28% of Indonesian Total coffee production (Table 1).

Table 1. Coffee Farming Area in Indonesia on 2020.

Province	Total Production (Ton)	Percentage (%)
South Sumatera	198,945	28%
Lampung	117,311	16%
North Sumatera	76,597	11%
Aceh	73,419	10%
Bengkulu	62,279	9%
Other	387,023	26%

Source: [2]



Coffee plays important role as the livelihood of smallholder farmer. However, farmers sometimes have to sell their coffee at a lower price than the cost production [3] since farmers do not have market power [4]. The selling price of coffee is low and volatile that reduces the welfare of coffee farmers and affect farmer decision to produce coffee. Farmer decision making in farming also affected by their preference [5-8]. Therefore, to improve the welfare of farmers, it is necessary to improve prices of coffee [9].

The efforts that can be made to improve the welfare of coffee farmers is to join fairtrade [10]. It is known that Fairtrade in coffee farming has been widely applied in several coffee-producing countries such as Indonesia, Brazil, Vietnam and Colombia. Fairtrade coffee is coffee produced by small farmers and the concept of fairtrade will certainly be very profitable for farmers. Fairtrade is deliberately priced more expensive so that coffee farmers can get greater profits, and increase the welfare of small coffee farmers in developing countries [11]. Moreover, fairtrade coffee give guarantee to consumers to enjoy quality coffee, get an exclusive impression from the consumption of this kind of product, plus get positive feelings because they have contributed to coffee farmers [12].

There has been debated in academic and policy circles whether Fairtrade can achieve its intended goals or can Fairtrade really enhance living condition of farmer. Therefore, it is interesting to analyze difference of characteristic, productivity, and income of fairtrade and non-fairtrade farmer.

1.1. Fair trade

Fairtrade is a social movement that emerged as a response to the failure of liberal trade-in overcoming problems of poverty and inequality in the world economy. In essence, fairtrade aims to create a fair trading system, especially for farmers in southern countries, by promoting consumer awareness, especially in developed countries, about the negative impacts caused by the conventional system (liberal) trade, and the need for changes in the way people operate trading [12].

Fairtrade is a system of certification that aims to ensure a set of standards are met in the production and supply of a product. For farmers and workers, fairtrade means workers' rights, safer working conditions and fairer pay. For shoppers it means high quality, ethically produced products. Choosing Fairtrade means standing with farmers for fairness and equality, against some of the biggest challenges the world faces. It means farmers creating change, from investing in climate friendly farming techniques to developing women in leadership [13].

Fairtrade is associated with higher output prices and higher incomes among smallholder farmers [14] and reached improvements in food consumption and living conditions that resulted in a significant drop in child mortality [15]. Fairtrade also showed positive effects on aggregate household living standards [16]. Fairtrade also bans child labor and forced labor Moreover, Fairtrade-certified cooperatives often assist farmers in terms of training and input supply [17].

2. Materials and methods

This research was conducted on Takengon District which is one of the coffee producers in Aceh. Sample of this study is Farmers in Gayo Farmer Cooperative. Farmers in Gayo Cooperative under the auspices of FLO (Fairtrade Labeling Organization) International had applied fairtrade system since 2018. Currently, the Gayo Farming Cooperative member are 1800 farmers coffee consist of fairtrade coffee farmers and non-fairtrade coffee farmers. The Gayo Farmer Cooperative has successfully implemented fairtrade to its members and can provide an overview of fairtrade treatment in Indonesia. Coffee produced by fairtrade farmer in Gayo Farming Cooperative is Organic Coffee with organic farming techniques that certified by Swiss Control Union and Dutch Union Specta.

Focus of this research is to analyze the difference of productivity and income of fairtrade farmers before and after applied fairtrade. Data was obtained directly from the first source by conducting interviews with fairtrade coffee farmers and non-fairtrade coffee farmers. The data collected consisted of sample characteristics, coffee farming income and information related to fairtrade.

This research using 50 non-fairtrade farmers and 50 fairtrade farmers, member of Gayo Farmers' Cooperative as sample. Research sample group can be divided as follows:

- FT 2017 : Fairtrade farmer group data in 2017 (before implementing fairtrade)
- FT 2018 : Fairtrade farmer group data 2018 (after implementing fairtrade)
- NFT 2017 : Non-Fairtrade farmer group data in 2017
- NFT 2018 : Non-Fairtrade farmer group data in 2018

Total revenue is amount of production times price of product and total income is the difference between income and total costs. Mathematically these can be written as follows (1) and (2).

$$TR = P \cdot Q \quad (1)$$

$$Y = TR - TC \quad (2)$$

TR is annual revenue of coffee (IDR), P is Price of Coffee (IDR), Q is annual production of Coffee (Kg/year), TC is annual cost of coffee farming (IDR/year) and Y is annual income of coffee farming (IDR/year).

3. Results and discussion

Fairtrade coffee is coffee produced by small farmers, where products from the plantations of these small farmers are then used as a permanent supply from agencies such as coffee drink producers or coffee shop chains that use coffee as basic ingredients. This coffee supplier then agrees to pay a price that is more commensurate with the effort (in other words, more expensive), in exchange for the quality coffee produced by the farmer. This will then have a positive impact on the lives of the coffee farmers.

In Gayo Farmer Cooperative fairtrade had been implemented since 2018. There are two groups of farmers that being analyzed in this research, the non-fairtrade coffee farmer and fairtrade coffee farmer. The characteristic of farmer such as gender, age, and education can be seen and describe in Table 2.

Table 2. Characteristic of coffee farmer in Gayo Farmer Cooperative.

Characteristic	Fairtrade farmer	Non-fairtrade farmer
Age Distribution		
25-30	13	19
31-40	14	16
≥ 40	23	15
Gender		
Male	39	34
Female	11	16
Education		
0-9 years	7	5
≥ 9-12 years	24	23
≥ 12 years	19	22

The characteristics of fairtrade farmers are dominated by farmers aged ≥ 40 years, while non-fairtrade coffee farmers are dominated by farmers aged 25-30 years. Fairtrade and non-fairtrade farmers are dominated by farmers who are categorized as productive age. Where the age level that is still productive will make the business run according to a good mindset for the sustainability. Result shows that fairtrade farmer in Gayo Cooperative already implemented fairtrade principle, bans child labor [18].

Farmers based on gender are dominated by male farmer, 34% for non-fairtrade coffee farmers and 39% of fairtrade coffee farmers. Farmers are more dominated by male because coffee farming and processing activities tend to require more physical strength. Coffee farming activities include hoeing,

fertilizing, maintenance and picking, while processing activities include sorting, drying, roasting, refining roasted coffee beans and packaging. Post-harvest coffee processing activities require little labor because some activities are carried out using different machines from farming activities, which all activities require physical strength.

Characteristics of fairtrade farmers and non-fairtrade farmers based on education are more dominated by high school and undergraduate. The level of formal education of coffee farmers from the Gayo Farming Cooperative is relatively high. It can be an advantage since the adaptation to new technology in coffee farming should be applied due to demand of high-quality coffee and risk in coffee farming. Farmers who have a high level of education tend to have a greater desire to learn technology and new things so that the knowledge gained is wider.

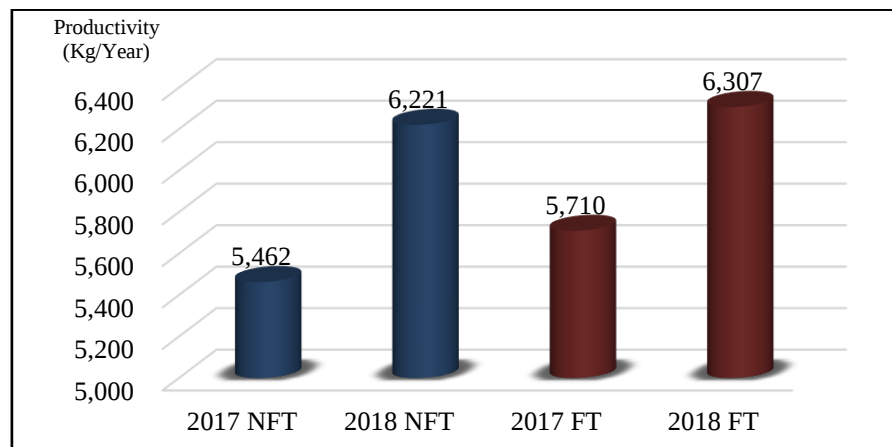


Figure 1. Productivity distribution for fair trade and non-fairtrade farmer.

The productivity of non-fairtrade farmers and fairtrade farmers significantly increase in 2018 (Figure 1). Productivity of non-fairtrade farmer is lower than fairtrade farmer. However, non-fairtrade farmer has greater incremental (6.49%) than fair trade farmer (4.97%). It means that output coffee that produced by non-fairtrade farmer per Hectare is higher than output coffee of fairtrade farmer per Hectare. Fairtrade farmers producing coffee by following the requirements required by fairtrade, farming must be done organically. Fairtrade farmers are required to use organic fertilizers in coffee cultivation, while non-fairtrade farmers can use a mixture of chemical fertilizers in their coffee cultivation. Chemicals Fertilizer (non-organic) can help accelerate the growth of coffee, but it is not good for health whereas, with natural ingredients (organic) the process of growing coffee is not as fast as with chemicals but good for health. Moreover, organic farming can support sustainability of agriculture since organic farming improves land quality.

The income per hectare of either non-fairtrade farmers or fairtrade farmers increased in 2018 (Figure 2). The average income per hectare in 2017 (before both farmer groups implemented fairtrade) for the fairtrade farmer group (IDR 605,873,416) is greater than the non-fairtrade farmer group (IDR 578,957,504) since the average range for coffee farming in the fairtrade group is bigger than the non-fairtrade group. In 2018 (after the fairtrade farmer group implemented fairtrade), the average income per hectare of fairtrade farmer still greater than non-fairtrade farmers. However, the Incremental of fairtrade farmers (9.25%) is greater than non-fairtrade farmers (8.14%). This is because of the premium value of 0.44 USD (IDR. 6,607.00) received by fairtrade farmers. Premiums (cashback) to farmers are given by cooperatives or farming businesses where the farmer is a member of the cooperative and the fairtrade certification owned by the cooperative is a fairtrade certificate issued by the International FLO (Fairtrade Labeling Organization) institution.

Fairtrade premiums are not given to farmers directly, but through cooperatives which is a premium committee. The premium allocation to farmers is decided after a member discussion with the

cooperative. There are no premium deductions. An allocation of 25% of the premium is a requirement of the Fairtrade standard to increase the productivity and quality of coffee production for Fairtrade farmers. Premium is not directly calculated as net income but is an investment to increase the income of coffee farmers. Fairtrade premiums are not in the form of cash back, but money that is given beside the selling price of Fairtrade products or coffee to increase the welfare of coffee farmers through cooperatives. This premium is given to increase farmer welfare [18].

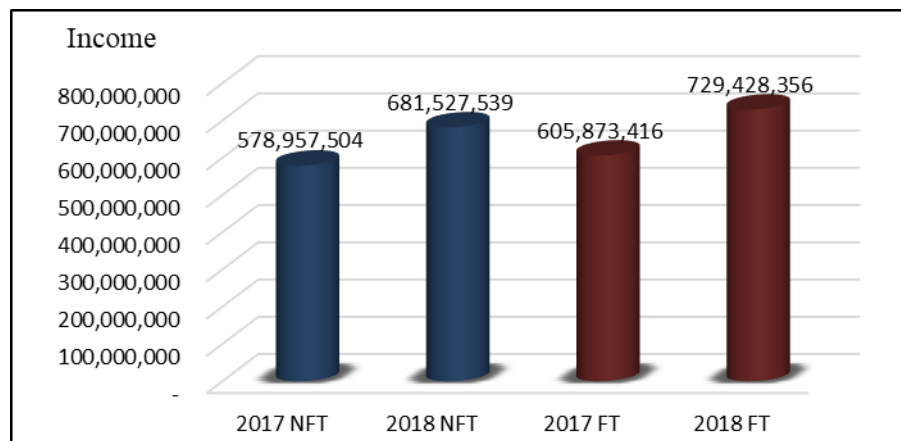


Figure 2. Income distribution for fair trade and non-fairtrade farmer.

Contract with fair trade ensure that the product will get a fair price, but farmer must follow standart procedure to obtain fair trade certification [10]. This is the reason non-fairtrade farmer with greater productivity is still have lower income than fairtrade farmer.

Fairtrade is a good program to implement for coffee farming, since fairtrade support the sustainability of agriculture. There is a limitation to this research since the observation was only done for one year. The result of fairtrade maybe cannot be seen in just a year, further research needs to be done to analyze the other impact of fair trade not only for coffee but also for every agricultural commodity. This research gives a simple description of the impact of fair trade so every party especially the government could make a better policy to support fair trade in Indonesia.

4. Conclusions

The productivity of non-fairtrade and fairtrade coffee farmers increased in 2018. Productivity incremental of non-fairtrade farmer is greater than fairtrade farmer due to the requirements of fairtrade such as the use of organic fertilizers which causes farmers' productivity to be lower. However, income incremental of non-fairtrade farmer is lower than fairtrade farmer due to additional price that is only given to fairtrade farmer.

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